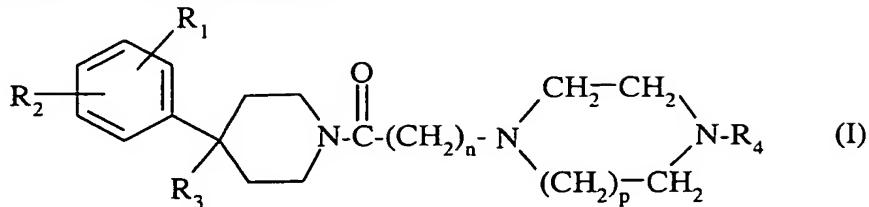


CLAIMS

1. Compound of the formula (I):

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in which:

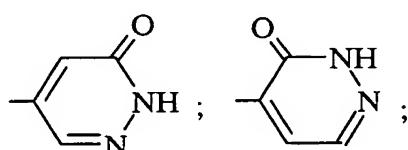
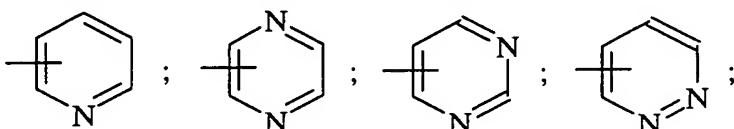
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- n is 1 or 2;
- p is 1 or 2;
- R₁ represents a halogen atom; a trifluoromethyl radical; a (C₁-C₄)alkyl; a (C₁-C₄)alkoxy; a trifluoromethoxy radical;
- R₂ represents a hydrogen atom or a halogen atom;
- R₃ represents a hydrogen atom; a group -OR₅; a group -CH₂OR₅; a group -NR₆R₇; a group -NR₈COR₉; a group -NR₈CONR₁₀R₁₁; a group -CH₂NR₁₂R₁₃; a group -CH₂NR₈CONR₁₄R₁₅; a (C₁-C₄)alkoxycarbonyl; a group -CONR₁₆R₁₇;
- or else R₃ constitutes a double bond between the carbon atom to which it is attached and the adjacent carbon atom of the piperidine ring;
- R₄ represents an aromatic group selected from:

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- the said aromatic groups being unsubstituted or being mono- or disubstituted by a substituent selected independently from a halogen atom; a (C₁-C₄)alkyl; a (C₁-C₄)alkoxy; a trifluoromethyl radical;
- R₅ represents a hydrogen atom ; a (C₁-C₄)alkyl; a (C₁-C₄)alkylcarbonyl;
- R₆ and R₇ represent each independently a hydrogen atom or a (C₁-C₄)alkyl;
- R₈ represents a hydrogen atom or a (C₁-C₄)alkyl;
- R₉ represents a (C₁-C₄)alkyl or a group -(CH₂)_m-NR₆R₇;

- m is 1, 2 or 3;
- R₁₀ and R₁₁ represent each independently a hydrogen atom or a (C₁-C₄)alkyl;
- R₁₂ and R₁₃ represent each independently a hydrogen atom or a (C₁-C₅)alkyl; R₁₃ may also represent a group -(CH₂)_q-OH or a group -(CH₂)_q-S-CH₃;
- or else R₁₂ and R₁₃, together with the nitrogen atom to which they are attached, constitute a heterocycle selected from aziridine, azetidine, pyrrolidine, piperidine and morpholine;
- q is 2 or 3;
- R₁₄ and R₁₅ represent each independently a hydrogen atom or a (C₁-C₄)alkyl;
- R₁₆ and R₁₇ represent each independently a hydrogen atom or a (C₁-C₄)alkyl; R₁₇ may also represent a group -(CH₂)_q-NR₆R₇;
- or else R₁₆ and R₁₇, together with the nitrogen atom to which they are attached, constitute a heterocycle selected from azetidine, pyrrolidine, piperidine, morpholine and piperazine which is unsubstituted or substituted in position 4 by a (C₁-C₄)alkyl;

in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

2. Compound of formula (I) according to Claim 1, characterized in that:

- R₁ is in position 2, 3 or 4 of the phenyl and represents a trifluoromethyl radical, a chlorine atom, a methyl, a methoxy or a trifluoromethoxy radical and R₂ represents a hydrogen atom; or else R₁ is in position 3 of the phenyl and represents a trifluoromethyl radical and R₂ is in position 4 of the phenyl and represents a chlorine atom;

in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

3. Compound of formula (I) according to Claim 1, characterized in that:

- R₃ represents a hydrogen atom, a hydroxyl, a methoxy, an (acetoxy)methyl, a hydroxymethyl, a dimethylamino, an acetyl amino, an aminomethyl, a (methylamino)methyl, a (dimethylamino)methyl, a (diethylamino)methyl, an (isopropylamino)methyl, an (N-methylisopropylamino)methyl, an (isobutylamino)methyl, an (N-methylisobutylamino)methyl, an (isopentylamino)methyl, an (N-methylisopentylamino)methyl, an aminocarbonyl, an azetidin-1-ylcarbonyl; or else R₃ constitutes a double bond between the carbon atom to which it is attached and the adjacent carbon atom of the piperidine ring;

in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

4. Compound of formula (I) according to Claim 1, characterized in that:

5 - R₄ represents a 2-pyridyl, a 6-methyl-2-pyridyl, a 3-(trifluoromethyl)-2-pyridyl, a 5-(trifluoromethyl)-2-pyridyl, a 3-chloro-5-(trifluoromethyl)-2-pyridyl, a 3-pyridyl, a 4-pyridyl, a 3,5-dichloro-4-pyridyl, a 2-pyrazinyl, a 5-chloro-2-pyrazinyl, a 6-chloro-2-pyrazinyl, a 2-pyrimidinyl, a 4-(trifluoromethyl)-2-pyrimidinyl, a 6-chloro-2-pyrimidinyl, a 4-pyrimidinyl, a 6-chloro-4-pyrimidinyl, a 5-pyrimidinyl, a 3-pyridazinyl, a 6-chloro-3-pyridazinyl, a 4-pyridazinyl, a 3(2H)-pyridazinone-5-yl or a 3(2H)-pyridazinone-4-yl;

10 in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

5. Compound of formula (I) according to Claim 1, characterized in that:

15 - n is 1 or 2;

20 - p is 1 or 2;

25 - R₁ is in position 2, 3 or 4 of the phenyl and represents a trifluoromethyl radical, a chlorine atom, a methyl, a methoxy or a trifluoromethoxy radical and R₂ represents a hydrogen atom; or else R₁ is in position 3 of the phenyl and represents a trifluoromethyl radical and R₂ is in position 4 of the phenyl and represents a chlorine atom;

30 - R₃ represents a hydrogen atom, a hydroxyl, a methoxy, an (acetyloxy)methyl, a hydroxymethyl, a dimethylamino, an acetylarnino, an aminomethyl, a (methylarnino)methyl, a (dimethylarnino)methyl, a (diethylarnino)methyl, an (isopropylarnino)methyl, an (N-methylisopropylarnino)methyl, an (isobutylarnino)methyl, an (N-methylisobutylarnino)methyl, an (isopentylarnino)methyl, an (N-methylisopentylarnino)methyl, an aminocarbonyl, an azetidin-1-ylcarbonyl; or else R₃ constitutes a double bond between the carbon atom to which it is attached and the adjacent carbon atom of the piperidine ring;

35 - R₄ represents a 2-pyridyl, a 6-methyl-2-pyridyl, a 3-(trifluoromethyl)-2-pyridyl, a 5-(trifluoromethyl)-2-pyridyl, a 3-chloro-5-(trifluoromethyl)-2-pyridyl, a 3-pyridyl, a 4-pyridyl, a 3,5-dichloro-4-pyridyl, a 2-pyrazinyl, a 5-chloro-2-pyrazinyl, a 6-chloro-2-pyrazinyl, a 2-pyrimidinyl, a 4-(trifluoromethyl)-2-pyrimidinyl, a 6-chloro-2-pyrimidinyl, a 4-pyrimidinyl, a 6-chloro-4-pyrimidinyl, a 5-pyrimidinyl, a 3-pyridazinyl, a 6-chloro-3-pyridazinyl, a 4-pyridazinyl, a 3(2H)-pyridazinone-5-yl, a 3(2H)-pyridazinone-4-yl;

40 in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

6. Compound of formula (I) according to Claim 1, characterized in that:

- n is 1;
 - p is 1;
 - R₁ is in position 2, 3 or 4 of the phenyl and represents a trifluoromethyl radical, a chlorine atom, a methoxy or a trifluoromethoxy radical and R₂ represents a hydrogen atom; or else R₁ is in position 3 of the phenyl and represents a trifluoromethyl radical and R₂ is in position 4 of the phenyl and represents a chlorine atom;
 - R₃ represents a hydroxyl, a dimethylamino, an aminomethyl, a (methylamino)methyl, a (dimethylamino)methyl, a (diethylamino)methyl, an (isopropylamino)methyl, an (isobutylamino)methyl, an (isopentylamino)methyl, an (N-methylisopentylamino)methyl or an aminocarbonyl; or else R₃ constitutes a double bond between the carbon atom to which it is attached and the adjacent carbon atom of the piperidine ring;
 - R₄ represents a 2-pyrazinyl, a 4-pyrimidinyl, a 3(2H)-pyridazinone-5-yl or a 5-(trifluoromethyl)-2-pyridyl;
 in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

7. Process for preparing compounds of formula (I) according to Claim 1 in which n = 1, characterized in that:

20 a1) a compound of formula

(IIa)

25 in which R₁, R₂ and R₃ are as defined for a compound of formula (I) in Claim 1 and Hal represents a halogen atom, preferably chlorine or bromine, with the proviso that when R₃ contains a hydroxyl or amine function these functions may be protected, is reacted with a compound of formula

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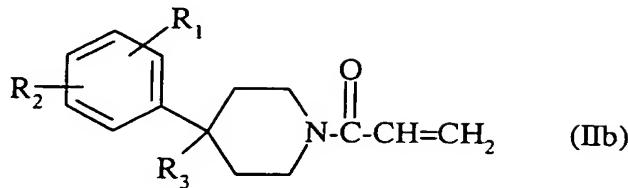
(III)

35 in which p and R₄ are as defined for a compound of formula (I) in Claim 1; b1) and, after deprotection of the hydroxyl or amine functions present in R₃ where appropriate, the compound of formula (I) is obtained.

8. Process for preparing compounds of formula (I) according to Claim 1 in which n = 2, characterized in that:

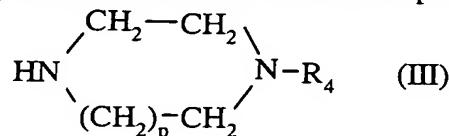
a2) a compound of formula

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in which R_1 , R_2 and R_3 are as defined for a compound of formula (I) in Claim 1, with the proviso that when R_3 contains a hydroxyl or amine function these functions may be protected, is reacted with a compound of formula

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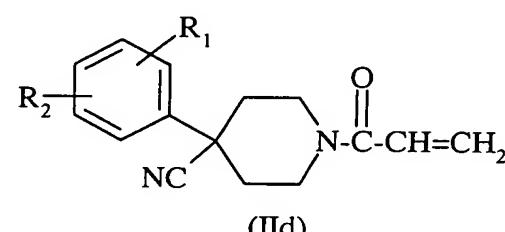
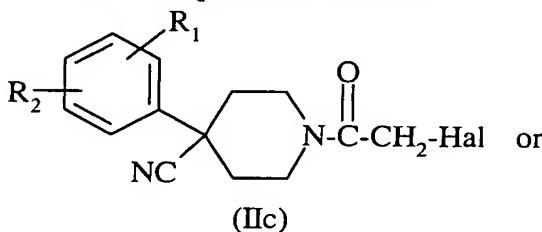
in which p and R_4 are as defined for a compound of formula (I) in Claim 1;

b2) and, after deprotection of the hydroxyl or amine functions present in R_3 where appropriate, the compound of formula (I) is obtained.

9. Process for preparing compounds of formula (I) according to Claim 1 in which R_3 represents a group $-CH_2NR_{12}R_{13}$ in which R_{12} and R_{13} each represent hydrogen, characterized in that:

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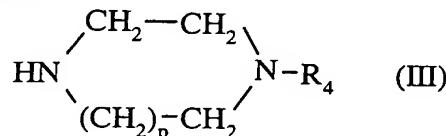
a3) a compound of formula



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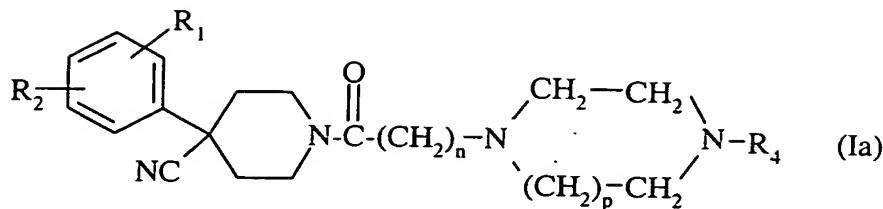
in which R_1 and R_2 are as defined for a compound of formula (I) in Claim 1 and Hal represents a halogen atom, preferably chlorine or bromine, is reacted with a compound of formula

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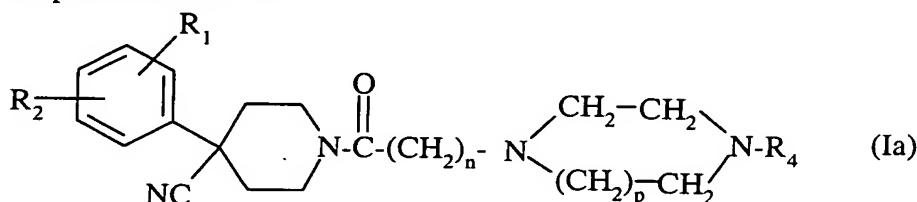
in which p and R_4 are as defined for a compound of formula (I) in Claim 1 to give a compound of formula

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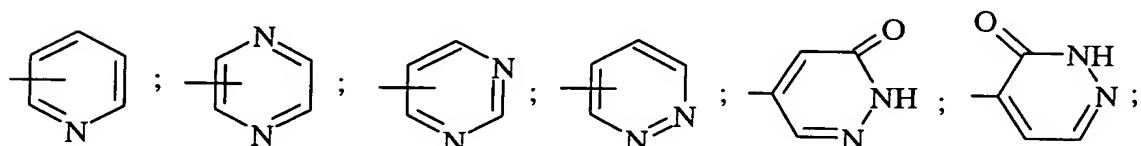
b3) the cyano group of the compound of formula (Ia) is reduced to give a compound of formula (I) according to Claim 1 in which $R_3 = CH_2NH_2$.

10 10. Compound of formula



15 in which:

- n is 1 or 2;
- p is 1 or 2;
- R_1 represents a halogen atom; a trifluoromethyl radical; a (C_1 - C_4)alkyl; a (C_1 - C_4)alkoxy; a trifluoromethoxy radical;
- R_2 represents a hydrogen atom or a halogen atom;
- R_4 represents an aromatic group selected from:



25 the said aromatic groups being unsubstituted or mono- or disubstituted by a substituent selected independently from a halogen atom, a (C_1 - C_4)alkyl, a (C_1 - C_4)alkoxy, a trifluoromethoxy radical;

in the form of a base or an addition salt with an acid, or in the form of a hydrate or solvate.

30 11. Medicament, characterized in that it comprises a compound of formula (I)

according to any one of Claims 1 to 6, or an addition salt of this compound with a pharmaceutically acceptable acid, or else a hydrate or a solvate of the compound of formula (I).

35 12. Pharmaceutical composition, characterized in that it comprises a compound of formula (I) according to any one of Claims 1 to 6, or a pharmaceutically acceptable salt, a hydrate or a solvate of this compound, and at least one pharmaceutically acceptable excipient.

5 13. Use of a compound of formula (I) according to any one of Claims 1 to 6 for the preparation of a medicament intended for the prevention or treatment of central or peripheral neurodegenerative diseases; amyotrophic lateral sclerosis, multiple sclerosis; cardiovascular conditions; peripheral neuropathies; damage to the optic nerve and to the retina; spinal cord trauma and cranial trauma; atherosclerosis; stenoses; cicatrization; alopecia; cancers; tumours; metastases; leukaemias; chronic neuropathic and inflammatory pain; autoimmune diseases; bone fractures; bone diseases.

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